



Abstract

An optical isolator is disclosed for transmitting light in a first direction and blocking light in a second direction along an optical pathway. The optical isolator includes an input polarizer having a pass axis at first angle, an output polarizer having a pass axis at second angle, a Faraday rotator material between the polarizers having a Verdet constant and an axis of maximum length therethrough, generation means for generating a magnetic field around and inside the rotator material, and at least one reflector configured to define an optical length through the rotator material which is longer than the axis therethrough. The optical pathway length through the rotator material, the magnetic field strength, and the Verdet constant are selected so as to rotate light through the Faraday rotator material from the first angle to the second angle.